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=> fil reg
FILE 'REGISTRY' ENTERED AT 10:16:05 ON 18 MAR 2010
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STRUCTURE FILE UPDATES:   17 MAR 2010  HIGHEST RN 1211109-76-0
DICTIONARY FILE UPDATES:  17 MAR 2010  HIGHEST RN 1211109-76-0

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TSCA INFORMATION NOW CURRENT THROUGH January 8, 2010.

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experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d que l87
L16             STR
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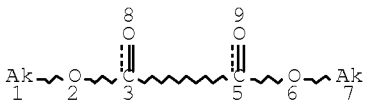


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NODE ATTRIBUTES:
CONNECT IS E1  RC AT   1
CONNECT IS E1  RC AT   7
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   8

STEREO ATTRIBUTES: NONE
L18         593 SEA FILE=REGISTRY SSS FUL L16
L20           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "1,3-PROPANE
                SULTONE"/CN
L21           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "VINYLENE
                CARBONATE"/CN
L22           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "METHYL ETHYL
                OXALATE"/CN
L23           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "METHYL PROPYL
                OXALATE"/CN
L25           7 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND C7H12O4/M
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L26           6 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L25 AND METHYL?
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L27          43 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND HEXYL?
L28          11 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L27 AND METHYL?
L29           0 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L27 AND 1-METHYL?

L30           5 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L27 AND 2-METHYL?

L31          15 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND HEPTYL?
L32          13 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND OCTYL?
L33           8 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND NONYL?
L34           8 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND DECYL?
L35           8 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND UNDECYL?

L36          11 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND DODECYL?

L44           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  COLIO2/MF
L45           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  LIMN2O4/MF
L46           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  LINIO2/MF
L47         462 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  (LI(L)CO(L)NI(L)O
                )/ELS(L)4/ELC.SUB
L49           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  GRAPHITE/CN
L50      231065 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L49 OR GRAPHITE#
L51        1607 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21
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L55        6008 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L18
L56             QUE  SPE=ON  ABB=ON  PLU=ON  ELECTROLYTE#
L57             QUE  SPE=ON  ABB=ON  PLU=ON  NONAQUEOUS? OR NON AQUEOUS?
L58             QUE  SPE=ON  ABB=ON  PLU=ON  L22 OR L23 OR (L26 OR L27 OR
                 L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR
                L36)
L59           3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L56 AND L57 AND
                L58
L60          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L56 AND L57 AND
                L55
L61          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L59 OR L60
L62           6 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L61 AND L52
L63           4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L62 AND L51
L64          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L59 OR L60 OR
                L61 OR L62 OR L63)
L65             QUE  SPE=ON  ABB=ON  PLU=ON  (L44 OR L45 OR L46 OR L47)
L66           3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L64 AND L65
L67           4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L64 AND L50
L68             QUE  SPE=ON  ABB=ON  PLU=ON  ANODE# OR NEGATIVE ELECTRODE
                #
L69             QUE  SPE=ON  ABB=ON  PLU=ON  CATHODE# OR POSITIVE ELECTRO
                DE#
L70          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L64 OR L66 OR L67

L71           7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L70 AND (L68 OR
                L69)
L72          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L70 OR L71
L87          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L72 AND (1840-2006
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=> fil hcap
FILE 'HCAPLUS' ENTERED AT 10:16:22 ON 18 MAR 2010
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE COVERS 1907 - 18 Mar 2010 VOL 152 ISS 12
FILE LAST UPDATED: 17 Mar 2010 (20100317/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Dec 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Dec 2009

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the first quarter of 2010.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l87 1-14 ibib ed abs hitstr hitind

L87 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2006:734562 HCAPLUS Full-text
DOCUMENT NUMBER: 145:191970
TITLE: Nonaqueous electrolyte solution and secondary lithium battery using the solution
INVENTOR(S): Abe, Koji; Kuwata, Takaaki
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006077763	A1	20060727	WO 2006-JP300278 <--	20060112
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
IN 2007CN03175	A	20070907	IN 2007-CN3175	20070719

			<--	
KR 2007097072	A	20071002	KR 2007-716598	20070719
			<--	
US 20090053598	A1	20090226	US 2007-814372	20070720
			<--	
PRIORITY APPLN. INFO.:			JP 2005-12728 A	20050120
			<--	
			JP 2005-12729 A	20050120
			<--	
			WO 2006-JP300278 W	20060112
			<--	

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 145:191970
ED Entered STN: 27 Jul 2006
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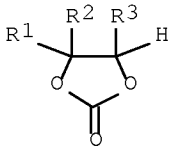

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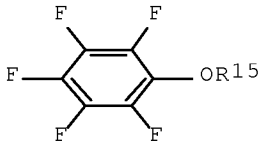


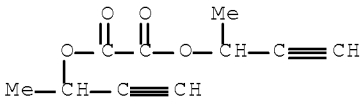
II

AB The electrolyte solution has an electrolyte salt dissolved in a nonaq. solvent; where the electrolyte solution further contains 0.1-10 weight% ethylene carbonate derivative I (R1-3 = H, halo, C2-12 alkenyl, C2-12 alkynyl, or C6-18 aryl group), and 0.01-10 weight% triple bond-containing compound and/or a pentafluorophenyl oxy compound II (R15 = C2-12 alkyl carbonyl, C2-12 alkoxycarbonyl, C7-18 aryloxy carbonyl, or C1-12 alkane sulfonyl group; and ≥1 H atom in R15 is substituted by halo atom or C6-18 aryl group). The battery has a cathode containing a Li composite oxide, an anode containing graphite, and the above electrolyte solution

IT 12190-79-3, Cobalt lithium oxide (CoLiO2)
(electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

IT 417706-30-0
(electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
RN 417706-30-0 HCAPLUS
CN Ethanedioic acid, 1,2-bis(1-methyl-2-propyn-1-yl) ester (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary battery electrolyte ethylene carbonate deriv pentafluorophenyl oxy compd; battery electrolyte triple bond contg compd
IT Battery electrolytes
(electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
IT Secondary batteries
(lithium; electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 623-53-0, Methyl ethyl carbonate 12190-79-3, Cobalt lithium oxide (CoLiO2) 21324-40-3, Lithium hexafluorophosphate 39361-75-6, Cobalt zirconium oxide 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2)
(electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
IT 98-06-6, tert-Butyl benzene 536-74-3, Phenyl acetylene 827-52-1, Cyclohexyl benzene 2049-95-8 4427-96-7, Vinyl ethylene carbonate 7310-92-1 13702-09-5 14283-07-9, Lithium tetrafluoroborate 16156-58-4, 2-Propynyl methane sulfonate 19220-93-0, Pentafluorophenyl acetate 26842-65-9 32042-39-0 61764-71-4, Methyl 2-propynyl carbonate 79493-91-7, Dipropargyl carbonate 90076-65-6 114435-02-8, Fluoroethylene carbonate 161912-36-3 197244-15-8 406725-07-3 417706-30-0 902243-09-8
(electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
IT 2917-96-6
(example; electrolyte solns. having ethylene carbonate derivs. and pentafluorophenyl oxy compds. and/or triple bond-containing compds. for secondary lithium batteries)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

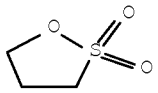
L87 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:1292320 HCAPLUS Full-text
DOCUMENT NUMBER: 144:38333
TITLE: Nonaqueous electrolyte solution for secondary lithium battery
INVENTOR(S): Abe, Koji; Miyoshi, Kazuhiro; Kuwata, Takaaki
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 45 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

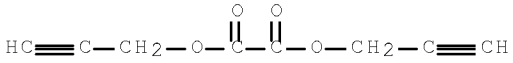
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005117197	A1	20051208	WO 2005-JP9900 <--	20050530
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2568519	A1	20051208	CA 2005-2568519 <--	20050530
EP 1772924	A1	20070411	EP 2005-743834 <--	20050530
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, LV, MK, YU				
CN 1989647	A	20070627	CN 2005-80024923 <--	20050530
CN 100474688	C	20090401		
US 20070231707	A1	20071004	US 2006-597652 <--	20061127
US 7629085	B2	20091208		
ZA 2006010287	A	20081029	ZA 2006-10287 <--	20061208
KR 2007024663	A	20070302	KR 2006-727547 <--	20061228
IN 2006CN04771	A	20070629	IN 2006-CN4771 <--	20061228
PRIORITY APPLN. INFO.:			JP 2004-159283 A <--	20040528
			WO 2005-JP9900 W <--	20050530

OTHER SOURCE(S): MARPAT 144:38333
ED Entered STN: 09 Dec 2005
AB The electrolyte solution contains an electrolyte salt in a nonaq. solvent and contains 0.01-10% S acid ester and 0.01-10% triple bond compound of the formula R1(C.tplbond.C)pR2, R3C.tplbond.C(CR4R5)xOY1, Y2O(CR6R7)xC.tplbond.C(CR8R9)xOY3, Y4O(CR10R11)xC.tplbond.CC.tplbond.C(CR12R13)xOY5, R14C.tplbond.C(CR15R16)xOCO2(CR17R18)xC.tplbond.CR19 or R20C.tplbond.C(CR21R22)xOWOY6 where R1 = C1-12 alkyl, C3-6 cycloalkyl, or aryl group; R2-R22 = H or C1-12 alkyl, C3-6 cycloalkyl, or aryl groups, p = 1 or 2, x = 1 or 2; R4 and R5, R6 and R7, R8 and R9, R10 and R11, R12 and R13, R15 and R16, R17 and R18, and R21 and R22 may form C3-6 cycloalkyl groups; W = -SO-, -SO2-, -COCO-; and the Y's are carboxylate ester, alkyl carbonyl, or alkyl sulfonyl groups.
IT 1120-71-4, Propanesultone 71573-77-8, Di(2-propynyl) oxalate 870861-60-2
(sulfur acid ester and alkyne compound additives in nonaq. electrolyte solns. for secondary lithium batteries)

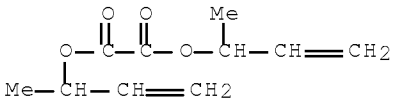
RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



RN 71573-77-8 HCAPLUS
CN Ethanedioic acid, 1,2-di-2-propyn-1-yl ester (CA INDEX NAME)



RN 870861-60-2 HCAPLUS
CN Ethanedioic acid, 1,2-bis(1-methyl-2-propen-1-yl) ester (CA INDEX NAME)



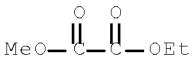
IC ICM H01M010-40
ICS H01M004-02; H01M004-38; H01M004-58; H01M004-66
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery electrolyte sulfur acid ester alkyne compd
IT Battery electrolytes
(sulfur acid ester and alkyne compound additives in nonaq. electrolyte solns. for secondary lithium batteries)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 623-53-0, Methyl ethyl carbonate 21324-40-3, Lithium hexafluorophosphate
(sulfur acid ester and alkyne compound additives in nonaq. electrolyte solns. for secondary lithium batteries)
IT 536-74-3, Phenylacetylene 1072-53-3 1120-71-4, Propanesultone 1633-83-6, Butanesultone 1899-25-8 3741-38-6, Glycol sulfite 16156-58-4, 2-Propynyl methanesulfonate 19828-82-1 19828-83-2 29619-56-5 61764-71-4 70886-56-5 71573-77-8, Di(2-propynyl) oxalate 406725-07-3 530158-20-4 870861-60-2
(sulfur acid ester and alkyne compound additives in nonaq. electrolyte solns. for secondary lithium batteries)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE

RE FORMAT

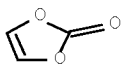
L87 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:732891 HCAPLUS Full-text
DOCUMENT NUMBER: 143:214335
TITLE: Nonaqueous electrolyte solution, secondary lithium battery, and operation of the battery
INVENTOR(S): Abe, Koji
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 23 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005074067	A1	20050811	WO 2005-JP1424 <--	20050201
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2555192	A1	20050811	CA 2005-2555192 <--	20050201
CN 1938894	A	20070328	CN 2005-80010139 <--	20050201
US 20070148554	A1	20070628	US 2006-588063 <--	20060801
KR 2006129042	A	20061214	KR 2006-717663 <--	20060831
IN 2006CN03177	A	20070608	IN 2006-CN3177 <--	20060901
PRIORITY APPLN. INFO.:			JP 2004-25834 A <--	20040202
			WO 2005-JP1424 W <--	20050201

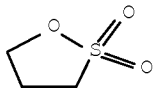
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 12 Aug 2005
AB The electrolyte solution has an electrolyte dissolved in a nonaq. solvent and contains 1-10% cyclohexylbenzene derivative with halogenated benzene rings and 0.1-5% fluorobenzene derivative The battery uses the above electrolyte solution containing several cyclic carbonates as electrolyte solution The battery is operated with a maximum operational voltage ≥4.2 V.
IT 615-52-1 872-36-6, Vinylene carbonate
1120-71-4, 1,3-Propanesultone
(electrolyte solns. containing halogenated cyclohexylbenzene and fluorobenzene derivs. for secondary lithium batteries)
RN 615-52-1 HCAPLUS
CN Ethanedioic acid, 1-ethyl 2-methyl ester (CA INDEX NAME)



RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



IC ICM H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery electrolyte halogenated cyclohexylbenzene fluorobenzene deriv
IT Battery electrolytes
(electrolyte solns. containing halogenated cyclohexylbenzene and fluorobenzene derivs. for secondary lithium batteries)
IT Secondary batteries
(lithium; secondary lithium batteries with electrolyte solns. containing halogenated cyclohexylbenzene and fluorobenzene derivs. and their operation method)
IT 96-49-1, Ethylene carbonate 615-52-1 623-53-0, Methyl ethyl carbonate 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propanesultone 21324-40-3, Lithium hexafluorophosphate
(electrolyte solns. containing halogenated cyclohexylbenzene and fluorobenzene derivs. for secondary lithium batteries)
IT 452-10-8, 2,4-Difluoroanisole 462-06-6, Fluorobenzene 1717-84-6
(electrolyte solns. containing halogenated cyclohexylbenzene and fluorobenzene derivs. for secondary lithium batteries)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)
REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:606347 HCAPLUS Full-text
DOCUMENT NUMBER: 143:100421
TITLE: Secondary lithium batteries having stable SEI

(solid electrolyte interface)

INVENTOR(S): Iwanaga, Masato; Inomata, Hideyuki; Oga, Keisuke; Abe, Hiroshi; Miyoshi, Kazuhiro

PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan; Ube Industries, Ltd.

SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005190754	A	20050714	JP 2003-428675 <--	20031225
JP 4319025	B2	20090826		
WO 2005064735	A1	20050714	WO 2004-JP19328 <--	20041224
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CN 1890836	A	20070103	CN 2004-80035854 <--	20041224
CN 100446335	C	20081224		
KR 2006113738	A	20061102	KR 2006-712347 <--	20060621
US 20070178380	A1	20070802	US 2006-584266 <--	20060623
JP 2009117383	A	20090528	JP 2009-17885 <--	20090129

PRIORITY APPLN. INFO.:
JP 2003-428675 A 20031225 <--
WO 2004-JP19328 W 20041224 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

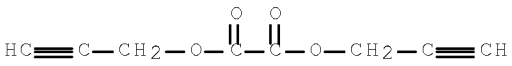
ED Entered STN: 14 Jul 2005

AB The batteries employ carbonaceous anodes, and nonaq . electrolyte solns. containing 0.1-3 weight% of vinylene carbonate and 0.1-2 weight% of di(2-propynyl) oxalate (to the total electrolyte solns.). The batteries show high initial discharge capacity, excellent charge-discharge cycling performance at high temperature, and inhibit gas generation upon repeated usage.

IT 71573-77-8, Di(2-propynyl) oxalate
(additive for electrolyte solution; secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)

RN 71573-77-8 HCAPLUS

CN Ethanedioic acid, 1,2-di-2-propyn-1-yl ester (CA INDEX NAME)



IT 7782-42-5, Graphite, uses
(anode; secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)
RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

C

IC ICM H01M010-40
ICS H01M002-02; H01M004-02; H01M004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery electrolyte soln additive vinylene carbonate; dipropynyl oxalate additive lithium battery electrolyte soln
IT Carbonaceous materials (technological products)
(anode; secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)
IT Battery electrolytes
Secondary batteries
(secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)
IT 872-36-6, Vinylene carbonate 71573-77-8, Di(2-propynyl) oxalate
(additive for electrolyte solution; secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)
IT 7782-42-5, Graphite, uses
(anode; secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate
(in electrolyte solution; secondary Li battery containing carbonaceous anode and electrolyte solution containing gas-suppressing additives)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L87 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:283755 HCAPLUS Full-text
DOCUMENT NUMBER: 142:358035
TITLE: Nonaqueous electrolyte solution and secondary lithium battery using the solution
INVENTOR(S): Abe, Koji; Kuwata, Takaaki
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 26 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005029631	A1	20050331	WO 2004-JP13687 <--	20040917
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1672729	A1	20060621	EP 2004-773306 <--	20040917
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
CN 1864299	A	20061115	CN 2004-80026823 <--	20040917
CN 100481604	C	20090422		
KR 2006076304	A	20060704	KR 2006-705312 <--	20060316
US 20070054185	A1	20070308	US 2006-572571 <--	20060317
US 7261975	B2	20070828		
PRIORITY APPLN. INFO.:			JP 2003-324100 A <--	20030917
			WO 2004-JP13687 W <--	20040917

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 01 Apr 2005
AB The electrolyte solution has an electrolyte salt dissolved in a nonaq. solvent; where the electrolyte solution further contains a pentafluorophenyloxy compound C6F5-OR1 (R1 = substituent selected from C2-12 alkyl carbonyl, C7-18 aryloxy carbonyl and/or C1-12 alkane sulfonyl group; and at least one H atom of the substituent may be substituted by a halogen atom or an C6-18 aryl group) and a vinylene carbonate and/or 1,3-propane sultone. The battery has a cathode, an anode, and the above electrolyte solution
IT 7782-42-5, Graphite, uses 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2)
(electrolyte solns. containing pentafluorophenyloxy compds. for secondary lithium batteries)
RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

C

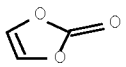
RN 12057-17-9 HCAPLUS
CN Lithium manganese oxide (LiMn2O4) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	4	17778-80-2
Mn	2	7439-96-5
Li	1	7439-93-2

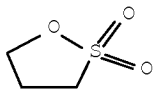
RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

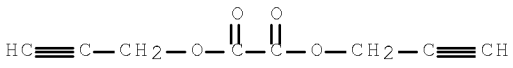
IT 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propane sultone 71573-77-8, Dipropargyl oxalate
(electrolyte solns. containing pentafluorophenyloxy compds. for secondary lithium batteries)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



RN 71573-77-8 HCAPLUS
CN Ethanedioic acid, 1,2-di-2-propyn-1-yl ester (CA INDEX NAME)



IC ICM H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery electrolyte pentafluorophenyloxy

compd
IT Battery electrolytes
(electrolyte solns. containing pentafluorophenyloxy compds. for secondary lithium batteries)
IT Secondary batteries
(lithium; electrolyte solns. containing pentafluorophenyloxy compds. for secondary lithium batteries)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 623-53-0, Methyl ethyl carbonate 7782-42-5, Graphite, uses 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2) 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
(electrolyte solns. containing pentafluorophenyloxy compds. for secondary lithium batteries)
IT 96-48-0 827-52-1, Cyclohexyl benzene 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propane sultone 1717-84-6 2049-95-8, tert-Pentyl benzene 5129-37-3, Butyl pivalate 19220-93-0, Pentafluorophenyl acetate 36919-03-6, Methyl pentafluorophenyl carbonate 71573-77-8, Dipropargyl oxalate 161912-36-3
(electrolyte solns. containing pentafluorophenyloxy compds. for secondary lithium batteries)
OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:141448 HCAPLUS Full-text
DOCUMENT NUMBER: 142:243601
TITLE: Secondary lithium battery and its nonaqueous electrolyte solution
INVENTOR(S): Abe, Koji; Miyoshi, Kazuhiro; Kuwata, Takaaki; Matsumori, Yasuo
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: PCT Int. Appl., 36 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005015677	A1	20050217	WO 2004-JP11714 <--	20040809

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CN 1836347	A	20060920	CN 2004-80022913 <--	20040809
CN 100431217	C	20081105		
KR 2006060683	A	20060605	KR 2006-702791 <--	20060209
US 20060246356	A1	20061102	US 2006-567902 <--	20060210
PRIORITY APPLN. INFO.:			JP 2003-291129 <--	A 20030811
			JP 2003-383406 <--	A 20031113
			WO 2004-JP11714 <--	W 20040809

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

ED Entered STN: 18 Feb 2005

AB The battery comprised a cathode, an anode, and a nonaq. electrolyte solution having an electrolyte salt dissolved in a nonaq. solvent mixture; where the cathode is a Li composite oxide containing material, the anode is a graphite containing material; and the electrolyte solution contains a dialkyl oxalate and a vinylene carbonate and/or 1,3-propane sultone.

IT 7782-42-5, Graphite, uses 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2)
(electrolyte solns. containing dialkyl oxalates and vinylene carbonate and/or 1,3-propane sultone for secondary lithium batteries)

RN 7782-42-5 HCAPLUS

CN Graphite (CA INDEX NAME)

C

RN 12057-17-9 HCAPLUS

CN Lithium manganese oxide (LiMn2O4) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	4	17778-80-2
Mn	2	7439-96-5
Li	1	7439-93-2

RN 12190-79-3 HCAPLUS

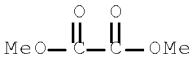
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

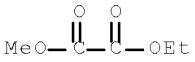
IT 553-90-2, Dimethyl oxalate 615-52-1, Methyl ethyl oxalate 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propane sultone 2050-60-4, Dibutyl oxalate 5132-19-4 20602-87-3, Dihexyl oxalate 20760-45-6, Dioctyl oxalate 841302-60-1

841302-61-2 841302-62-3
(electrolyte solns. containing dialkyl oxalates and vinylene carbonate and/or 1,3-propane sultone for secondary lithium batteries)

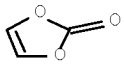
RN 553-90-2 HCAPLUS
CN Ethanedioic acid, 1,2-dimethyl ester (CA INDEX NAME)



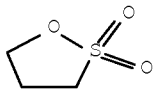
RN 615-52-1 HCAPLUS
CN Ethanedioic acid, 1-ethyl 2-methyl ester (CA INDEX NAME)



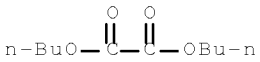
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



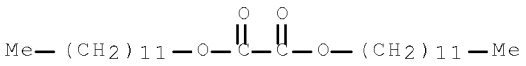
RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



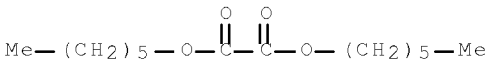
RN 2050-60-4 HCAPLUS
CN Ethanedioic acid, 1,2-dibutyl ester (CA INDEX NAME)



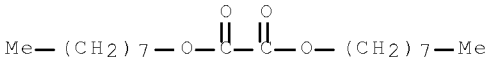
RN 5132-19-4 HCAPLUS
CN Ethanedioic acid, 1,2-didodecyl ester (CA INDEX NAME)



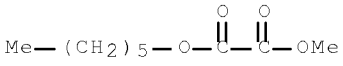
RN 20602-87-3 HCAPLUS
CN Ethanedioic acid, 1,2-dihexyl ester (CA INDEX NAME)



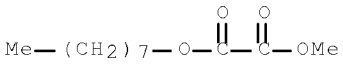
RN 20760-45-6 HCAPLUS
CN Ethanedioic acid, 1,2-dioctyl ester (CA INDEX NAME)



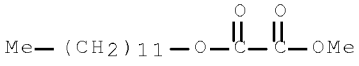
RN 841302-60-1 HCAPLUS
CN Ethanedioic acid, 1-hexyl 2-methyl ester (CA INDEX NAME)



RN 841302-61-2 HCAPLUS
CN Ethanedioic acid, 1-methyl 2-octyl ester (CA INDEX NAME)



RN 841302-62-3 HCAPLUS
CN Ethanedioic acid, 1-dodecyl 2-methyl ester (CA INDEX NAME)



IC ICM H01M010-40
ICS H01M004-58; H01M004-02
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST secondary lithium battery electrolyte additive dialkyl oxalate vinylene carbonate; battery electrolyte additive propane sultone

IT Battery electrolytes
(electrolyte solns. containing dialkyl oxalates and vinylene carbonate and/or 1,3-propane sultone for secondary lithium batteries)

IT Secondary batteries
(lithium; electrolyte solns. containing dialkyl oxalates and vinylene carbonate and/or 1,3-propane sultone for secondary lithium batteries)

IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Methyl ethyl carbonate 7782-42-5, Graphite, uses 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2) 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate
(electrolyte solns. containing dialkyl oxalates and vinylene carbonate and/or 1,3-propane sultone for secondary lithium batteries)

IT 108-59-8, Dimethyl malonate 553-90-2, Dimethyl oxalate 615-52-1, Methyl ethyl oxalate 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propane sultone 2050-60-4, Dibutyl oxalate 5132-19-4 20602-87-3, Dihexyl oxalate 20760-45-6, Dioctyl oxalate 61764-71-4, Methyl propargyl carbonate 841302-60-1 841302-61-2 841302-62-3
(electrolyte solns. containing dialkyl oxalates and vinylene carbonate and/or 1,3-propane sultone for secondary lithium batteries)

OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2005:76450 HCAPLUS Full-text

DOCUMENT NUMBER: 142:180441

TITLE: Nonaqueous electrolyte solution for secondary lithium battery and the battery

INVENTOR(S): Abe, Koji; Miyoshi, Kazuhiro; Kuwata, Takaaki

PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan

SOURCE: PCT Int. Appl., 48 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005008829	A1	20050127	WO 2004-JP10194 <--	20040716

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,

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            MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
            SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
            VC, VN, YU, ZA, ZM, ZW
        RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
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            DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL,
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    CA 2532579          A1    20050127    CA 2004-2532579        20040716
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            PL, SK, HR
    CN 1853307          A     20061025    CN 2004-80026556       20040716
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    CN 100517853        C     20090722
    ZA 2006000431       A     20070425    ZA 2006-431            20060116
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    KR 2006035767       A     20060426    KR 2006-701080         20060117
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    US 20060177742      A1    20060810    US 2006-564852         20060117
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    IN 2007CN04612      A     20080328    IN 2007-CN4612         20071016
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PRIORITY APPLN. INFO.:                      JP 2003-198421      A  20030717
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                                            WO 2004-JP10194     W  20040716
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ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S):         MARPAT 142:180441
ED   Entered STN:  28 Jan 2005
GI
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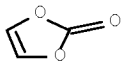
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The electrolyte solution contains 0.01-10% vinyl carbonate compound I (R1 and R2 = H or C1-4 alkyl groups) and 0.01-10% alkyne compds. selected from II-VII (R's and Y's defined; and x and p = 1 or 2).

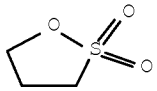
IT 872-36-6, Vinylene carbonate 1120-71-4, 1,3-Propanesultone 71573-77-8, Di(2-propynyl) oxalate 131166-79-5
(electrolyte solns. containing vinyl carbonate derivs. and alkyne compds. for secondary lithium batteries)

RN 872-36-6 HCAPLUS

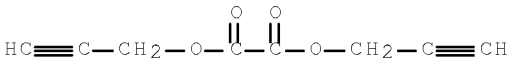
CN 1,3-Dioxol-2-one (CA INDEX NAME)



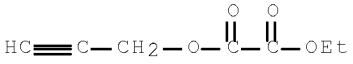
RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



RN 71573-77-8 HCAPLUS
CN Ethanedioic acid, 1,2-di-2-propyn-1-yl ester (CA INDEX NAME)



RN 131166-79-5 HCAPLUS
CN Ethanedioic acid, 1-ethyl 2-(2-propyn-1-yl) ester (CA INDEX NAME)



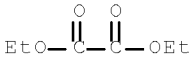
IC ICM H01M010-40
ICS H01M004-02; H01M004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery electrolyte soln vinyl carbonate deriv; acetylene group compd secondary lithium battery electrolyte soln
IT Battery electrolytes
(electrolyte solns. containing vinyl carbonate derivs. and alkyne compds. for secondary lithium batteries)
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 623-53-0, Ethyl methyl carbonate 21324-40-3, Lithium hexafluorophosphate 90076-65-6
(electrolyte solns. containing vinyl carbonate derivs. and alkyne compds. for secondary lithium batteries)
IT 98-06-6, tert-Butylbenzene 452-10-8, 2,4-Difluoroanisole 462-06-6, Fluorobenzene 536-74-3, Phenylacetylene 827-52-1, Cyclohexylbenzene 872-36-6, Vinylene carbonate 1072-53-3, Ethylene sulfate 1120-71-4, 1,3-Propanesultone 1717-84-6 2049-95-8, tert-Amylbenzene 16156-58-4, 2-Propynyl methanesulfonate 32042-39-0 36677-73-3 61764-71-4 71573-77-8, Di(2-propynyl) oxalate 79493-91-7, Dipropargyl carbonate 131166-79-5 197244-15-8 347396-84-3

406725-07-3 833427-83-1
(electrolyte solns. containing vinyl carbonate derivs. and alkyne compds. for secondary lithium batteries)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2002:962382 HCAPLUS Full-text
DOCUMENT NUMBER: 138:58890
TITLE: Electrolyte and secondary battery
INVENTOR(S): Shizuka, Kenji; Okahara, Kenji; Shima, Kunihisa
PATENT ASSIGNEE(S): Mitsubishi Chemical Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002367674	A	20021220	JP 2001-175182 <--	20010611
PRIORITY APPLN. INFO.:			JP 2001-175182 <--	20010611

OTHER SOURCE(S): MARPAT 138:58890
ED Entered STN: 20 Dec 2002
AB The electrolyte solution has a Li salt dissolved in a solvent mixture containing ≥1 nonaq. solvent selected from carbonate esters, ethers and/or lactones; a dicarboxylate diester of the formula R1O2(CH2)nO2R2 or R3O2(CH2)pCH:CH(CH2)qO2R4 (excluding succinate diesters) [R1-R4 = C1-10 alkyl or halogen substituted alkyl; n = an integer from 0-1 and 3-10; p and q = an integer from 0-5; and 0 ≤ (p+q) ≤ 10], or a derivative thereof; and an aromatic compound of the formula C6R1R2R3R4R5R6 or R1OC6R2R3R4R5R6 [R1-R6 = H, halogen, C1-10 chain alkyl, C4-10 cyclic alkyl, or (substituted) phenyl], having mol. weight ≤ 500. The battery has the above electrolyte solution, a cathode containing a Li transition metal oxide, and a carbonaceous anode.
IT 95-92-1, Diethyl oxalate
(electrolyte solns. containing dicarboxylate diesters and aromatic compds. with controlled mol. weight for secondary lithium batteries)
RN 95-92-1 HCAPLUS
CN Ethanedioic acid, 1,2-diethyl ester (CA INDEX NAME)



IC ICM H01M010-40
ICS H01M004-02; H01M004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery electrolyte nonaq solvent additive dicarboxylate diester
IT Battery electrolytes
(electrolyte solns. containing dicarboxylate diesters and

aromatic compds. with controlled mol. weight for secondary lithium batteries)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 21324-40-3, Lithium hexafluorophosphate
(electrolyte solns. containing dicarboxylate diesters and aromatic compds. with controlled mol. weight for secondary lithium batteries)

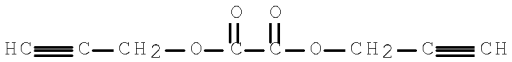
IT 95-92-1, Diethyl oxalate 108-59-8, Dimethyl malonate 132-64-9, Dibenzofuran 872-36-6, Vinylene carbonate
(electrolyte solns. containing dicarboxylate diesters and aromatic compds. with controlled mol. weight for secondary lithium batteries)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L87 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2002:313468 HCAPLUS Full-text
DOCUMENT NUMBER: 136:343311
TITLE: Nonaqueous electrolyte solution and secondary lithium battery using the electrolyte solution
INVENTOR(S): Hamamoto, Shunichi; Abe, Hiroshi; Yuguchi, Motoshi; Ushikoshi, Yoshihiro; Matsumori, Yasuo
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

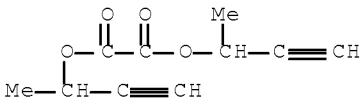
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2002124297	A	20020426	JP 2000-313549 <--	20001013
JP 3823712	B2	20060920		
PRIORITY APPLN. INFO.:			JP 2000-313549 <--	20001013

OTHER SOURCE(S): MARPAT 136:343311
ED Entered STN: 26 Apr 2002
AB The electrolyte solution contains ≥1 alkynyl compound R1C.tplbond.C(CR2R3)nOXOY, where X = -SO-, -SO2-, or -COCO-; Y = C1-12 alkyl, alkenyl, alkynyl group, C3-6 cycloalkyl group, C6-12 aryl group, or C7-12 aralkyl group; R1-3 = C1-12 alkyl, alkenyl, alkynyl group, C3-6 cycloalkyl group, C6-12 aryl group, or C7-12 aralkyl group, R2 and R3 may join together forming a C3-6 cycloalkyl group, and n = 1 or 2.
IT 71573-77-8, Di-(2-propynyl) oxalate 417706-30-0
(nonaq. electrolyte solns. containing alkynyl compds. for secondary lithium batteries)
RN 71573-77-8 HCAPLUS
CN Ethanedioic acid, 1,2-di-2-propyn-1-yl ester (CA INDEX NAME)



RN 417706-30-0 HCAPLUS

CN Ethanedioic acid, 1,2-bis(1-methyl-2-propyn-1-yl) ester (CA INDEX NAME)



IC ICM H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery electrolyte alkynyl compd
IT Battery electrolytes
(nonaq. electrolyte solns. containing alkynyl compds. for secondary lithium batteries)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 21324-40-3, Lithium hexafluorophosphate
(nonaq. electrolyte solns. containing alkynyl compds. for secondary lithium batteries)
IT 1899-25-8 19828-82-1 71573-77-8, Di-(2-propynyl) oxalate 417706-29-7 417706-30-0
(nonaq. electrolyte solns. containing alkynyl compds. for secondary lithium batteries)
OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

L87 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1998:464361 HCAPLUS Full-text
DOCUMENT NUMBER: 129:109417
ORIGINAL REFERENCE NO.: 129:22483a,22486a
TITLE: Salts of malononitrile-based anions for use as ionic conductors
INVENTOR(S): Armand, Michel; Choquette, Yves; Gauthier, Michel; Michot, Christophe
PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique (CNRS), Fr.; Hydro-Quebec
SOURCE: Eur. Pat. Appl., 49 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 850921	A1	19980701	EP 1997-403189 <--	19971230
EP 850921	B1	20020925		
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CA 2194127	A1	19980630	CA 1996-2194127 <--	19961230
CA 2199231	A1	19980905	CA 1997-2199231 <--	19970305
CA 2244979	A1	19980709	CA 1997-2244979 <--	19971230

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CA 2248242	A1	19980709	CA 1997-2248242 <--	19971230
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CA 2248246	C	20100209		
CA 2248303	A1	19980709	CA 1997-2248303 <--	19971230
CA 2248304	A1	19980709	CA 1997-2248304 <--	19971230
CA 2248304	C	20071113		
CA 2683826	A1	19980709	CA 1997-2683826 <--	19971230
WO 9829358	A2	19980709	WO 1997-CA1008 <--	19971230
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WO 9829399	A1	19980709	WO 1997-CA1009 <--	19971230
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WO 9829396	A1	19980709	WO 1997-CA1011 <--	19971230
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WO 9829877	A1	19980709	WO 1997-CA1012 <--	19971230
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EP 889863	A2	19990113	EP 1997-951051 <--	19971230
EP 889863	B1	20030507		
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EP 890176	A1	19990113	EP 1997-951052 <--	19971230
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JP 2000508114	T	20000627	JP 1998-529517 <--	19971230
JP 4361137	B2	20091111		
JP 2000508346	T	20000704	JP 1998-529516 <--	19971230
JP 2000508676	T	20000711	JP 1998-529514 <--	19971230
JP 4124487	B2	20080723		
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JP 2000508678	T	20000711	JP 1998-529518 <--	19971230
EP 1201650	A2	20020502	EP 2001-129670 <--	19971230

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EP 1201650	B1	20061122		
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JP 4070244	B2	20080402		
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US 6171522	B1	20010109	US 1998-101811 <--	19981119
US 6333425	B1	20011225	US 1998-101810 <--	19981119
US 6228942	B1	20010508	US 1998-125798 <--	19981202
US 6395367	B1	20020528	US 1998-125799 <--	19981202
US 6319428	B1	20011120	US 1998-125797 <--	19981203
US 6365068	B1	20020402	US 2000-609362 <--	20000630
US 6576159	B1	20030610	US 2000-638793 <--	20000809
US 20010024749	A1	20010927	US 2001-826941 <--	20010406
US 6506517	B2	20030114		
US 20020009650	A1	20020124	US 2001-858439 <--	20010516
US 20020102380	A1	20020801	US 2002-107742 <--	20020327
US 6835495	B2	20041228		
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US 2000-638793 A1 20000809
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US 2001-858439 A1 20010516
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US 2002-107742 A1 20020327
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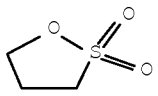
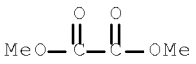
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 129:109417
ED Entered STN: 27 Jul 1998
AB The title compds., of specified structure and also useful as polymerization catalysts, colorants, etc., are prepared Stirring 10 mmol each stearoyl chloride and malononitrile K salt in THF at room temperature for 24 h, filtering, and stirring the filtrate with 500 mg Li2CO3 for 24 h gave >97% C17H35COC(CN)2- Li+. Use of the products in the above applications is exemplified.
IT 1120-71-4, 1,3-Propanesultone
(reaction with lithiated phenazine and malononitrile K salt)
RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



IT 553-90-2, Dimethyl oxalate
(reaction with malononitrile K salt)
RN 553-90-2 HCAPLUS
CN Ethanedioic acid, 1,2-dimethyl ester (CA INDEX NAME)



IC ICM C07C317-44
ICS C07C255-17; C07C255-65; C07C255-27; C07C255-05; C07C255-35; C08F220-44; C07C255-31; C08G065-48; C08G073-06; C08G077-44; C08G073-02; C07F017-02; C07F007-18; C07C311-02; C09K003-00; H01M006-16; H01M010-40; C07B041-00; C08F004-00
CC 35-3 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 23, 40, 67
IT Battery electrolytes
(malononitrile derivative salts as battery electrolytes)
IT Acid-base indicators
(malononitrile derivative salts as pH indicators in nonaq. solvents)
IT Polyelectrolytes
(malononitrile derivative salts as polymeric electrolytes)
IT 1120-71-4, 1,3-Propanesultone
(reaction with lithiated phenazine and malononitrile K salt)
IT 67-42-5 81-88-9, Rhodamine B 112-76-5, Stearoyl chloride 401-99-0, 1,3-Dinitro-5-(trifluoromethyl)benzene 553-90-2, Dimethyl oxalate 700-16-3, Pentafluoropyridine 38870-89-2, Methoxyacetyl chloride 40724-67-2 53188-07-1, Trolox 56512-49-3 86688-96-2, 1H-Pyrrole-3-acetic acid 210043-94-0
(reaction with malononitrile K salt)
OS.CITING REF COUNT: 9 THERE ARE 9 CAPLUS RECORDS THAT CITE THIS RECORD (9 CITINGS)
REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L87 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1997:505252 HCAPLUS Full-text
DOCUMENT NUMBER: 127:193073
ORIGINAL REFERENCE NO.: 127:37405a,37408a
TITLE: Secondary nonaqueous electrolyte batteries with oxalate ester containing electrolyte solvents
INVENTOR(S): Yamahira, Takayuki
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

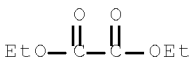
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 09199172	A	19970731	JP 1996-26160 <--	19960118
PRIORITY APPLN. INFO.:			JP 1996-26160 <--	19960118

ED Entered STN: 09 Aug 1997
AB The batteries use Li containing oxide cathodes, Li intercalating carbonaceous anode, and a Li salt electrolyte dissolved in a nonaq. solvent; where the solvent contains diesters of oxalic acid. The esters are selected from di-Me

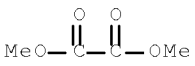
oxalate, di-ET oxalate, di-Pr oxalate, di-iso-Pr oxalate, Et Me oxalate, Me Pr oxalate, and Et Pr oxalate. These batteries have high voltage and good cycling performance at heavy loads.

IT 95-92-1, Diethyl oxalate 553-90-2, Dimethyl oxalate 615-52-1 615-81-6, Di-iso-propyl oxalate 615-98-5, Dipropyl oxalate 26404-21-7, Methyl propyl oxalate 26404-25-1, Ethyl propyl oxalate (solvent mixts. containing diesters of oxalic acid for lithium hexafluorophosphate in secondary lithium batteries)

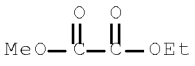
RN 95-92-1 HCAPLUS
CN Ethanedioic acid, 1,2-diethyl ester (CA INDEX NAME)



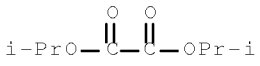
RN 553-90-2 HCAPLUS
CN Ethanedioic acid, 1,2-dimethyl ester (CA INDEX NAME)



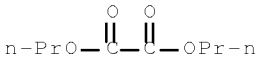
RN 615-52-1 HCAPLUS
CN Ethanedioic acid, 1-ethyl 2-methyl ester (CA INDEX NAME)



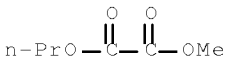
RN 615-81-6 HCAPLUS
CN Ethanedioic acid, 1,2-bis(1-methylethyl) ester (CA INDEX NAME)



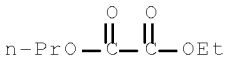
RN 615-98-5 HCAPLUS
CN Ethanedioic acid, 1,2-dipropyl ester (CA INDEX NAME)



RN 26404-21-7 HCAPLUS
CN Ethanedioic acid, 1-methyl 2-propyl ester (CA INDEX NAME)



RN 26404-25-1 HCAPLUS
CN Ethanedioic acid, 1-ethyl 2-propyl ester (CA INDEX NAME)



IC ICM H01M010-40
ICS H01M004-58
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST lithium battery electrolyte oxalic acid diester
IT Battery electrolytes
(solvent mixts. containing diesters of oxalic acid for lithium hexafluorophosphate in secondary lithium batteries)
IT 95-92-1, Diethyl oxalate 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 553-90-2, Dimethyl oxalate 615-52-1 615-81-6, Di-iso-propyl oxalate 615-98-5, Dipropyl oxalate 21324-40-3, Lithium hexafluorophosphate 26404-21-7, Methyl propyl oxalate 26404-25-1, Ethyl propyl oxalate
(solvent mixts. containing diesters of oxalic acid for lithium hexafluorophosphate in secondary lithium batteries)
OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)

L87 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1997:101100 HCAPLUS Full-text
DOCUMENT NUMBER: 126:106586
ORIGINAL REFERENCE NO.: 126:20539a,20542a
TITLE: Nonaqueous electrolyte batteries having reactive additives in electrolytes
INVENTOR(S): Jinno, Maruo; Uehara, Mayumi; Sakurai, Atsushi; Nishio, Koji; Saito, Toshihiko
PATENT ASSIGNEE(S): Sanyo Denki Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08321311	A	19961203	JP 1995-150843 <--	19950524
PRIORITY APPLN. INFO.:			JP 1995-150843	19950524

<--

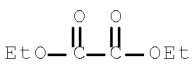
ED Entered STN: 12 Feb 1997

AB In the batteries having cathodes, anodes using Li as an active mass, nonaq. electrolytes obtained by dissolving LiCF3SO3 or LiPF6 in solvents of ethylene carbonate, propylene carbonate, and/or butylene carbonate having high dielec. constant, and separators, the electrolytes contain 1-20 volume% additives of acetone, MeOH, EtOH, 1-propanol, ethylene glycol, 1,2-propanediol, HAc, propionaldehyde, butylaldehyde, Et Me ketone, 2-pentanone, cyclohexanone, Me formate, Et formate, Pr formate, Me acetate, Et acetate, di-Me oxalate, di-Et oxalate, formic acid, AcOH, propionic acid, acetic anhydride, dimethylethoxysilane, dimethoxydimethylsilane, methyltirmethoxysilane, and/or tetramethoxysilane. The electrolytes may contain 1,2-dimethoxyethane. Since the additives react with Li in anodes and the solutes in the electrolytes to form coatings on the anodes for prevention of the reaction between the electrolytes and the anodes, the batteries have improved storage property.

IT 95-92-1, Diethyl oxalate 553-90-2, Dimethyl oxalate
(electrolyte additive; nonaq. batteries having reactive additives in electrolytes for storage)

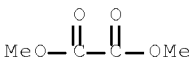
RN 95-92-1 HCAPLUS

CN Ethanedioic acid, 1,2-diethyl ester (CA INDEX NAME)



RN 553-90-2 HCAPLUS

CN Ethanedioic acid, 1,2-dimethyl ester (CA INDEX NAME)



IC ICM H01M006-16
ICS H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST nonaq battery electrolyte reactive additive storage; lithium anode nonaq battery electrolyte additive

IT Battery electrolytes
(nonaq. batteries having reactive additives in electrolytes for storage)

IT 7439-93-2, Lithium, uses
(anode active mass; nonaq. batteries having reactive additives in electrolytes for storage)

IT 57-55-6, 1,2-Propanediol, uses 64-17-5, Ethanol, uses 64-18-6, Formic acid, uses 64-19-7, Acetic acid, uses 67-56-1, Methanol, uses 67-64-1, Acetone, uses 71-23-8, 1-Propanol, uses 75-07-0, Acetaldehyde, uses 78-93-3, Ethyl methyl ketone, uses 79-09-4, Propionic acid, uses 79-20-9, Methyl acetate 95-92-1, Diethyl oxalate 107-21-1, Ethylene glycol, uses 107-31-3, Methyl formate 107-87-9, 2-Pentanone 108-24-7, Acetic anhydride 108-94-1, Cyclohexanone, uses 109-94-4, Ethyl formate 110-74-7,

Propyl formate 123-38-6, Propionaldehyde, uses 123-72-8, Butylaldehyde 141-78-6, Ethyl acetate, uses 553-90-2, Dimethyl oxalate 681-84-5, Tetramethoxysilane 1112-39-6, Dimethoxydimethylsilane 1185-55-3, Methyltrimethoxysilane 14857-34-2, Dimethylethoxysilane
(electrolyte additive; nonaq. batteries having reactive additives in electrolytes for storage)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 110-71-4, 1,2-Dimethoxyethane 4437-85-8, Butylene carbonate
(electrolyte solvent; nonaq. batteries having reactive additives in electrolytes for storage)

IT 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium trifluoromethanesulfonate
(electrolyte; nonaq. batteries having reactive additives in electrolytes for storage)

OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)

L87 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1996:387903 HCAPLUS Full-text
DOCUMENT NUMBER: 125:38110
ORIGINAL REFERENCE NO.: 125:7305a,7308a
TITLE: Secondary nonaqueous electrolyte batteries with improved electrolyte solvents
INVENTOR(S): Matsui, Tooru; Takeyama, Kenichi
PATENT ASSIGNEE(S): Matsushita Electric Ind Co Ltd, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

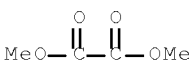
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08096849	A	19960412	JP 1994-228378 <--	19940922
PRIORITY APPLN. INFO.:			JP 1994-228378 <--	19940922

ED Entered STN: 04 Jul 1996

AB Secondary alkali metal batteries use nonaq. electrolyte solvent mixts. containing esters of saturated dicarboxylic acid (CmH2m+1) OCO(CH2)lCO2CnH2n+1 (l ≥0; m ≥0; n ≥0). The main solvent component is selected from ethylene carbonate, propylene carbonate, and (EtO)2CO.

IT 553-90-2, Dimethyl oxalate
(electrolyte solvent mixts. containing saturated dicarboxylate esters for secondary Li battery)

RN 553-90-2 HCAPLUS
CN Ethanedioic acid, 1,2-dimethyl ester (CA INDEX NAME)



IC ICM H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST lithium battery electrolyte solvent dicarboxylate ester
IT Battery electrolytes
(electrolyte solvent mixts. containing saturated dicarboxylate esters for secondary Li battery)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 105-99-7, Dibutyl adipate 106-19-4, Dipropyl adipate 106-65-0, Dimethyl succinate 106-79-6, Dimethyl sebacate 108-32-7, Propylene carbonate 108-59-8, Dimethyl malonate 141-28-6, Diethyl adipate 553-90-2, Dimethyl oxalate 627-93-0, Dimethyl adipate 1119-40-0, Dimethyl glutarate 1732-08-7, Dimethyl pimelate 1732-09-8, Dimethyl suberate 1732-10-1, Dimethyl azelate 14027-78-2, Dipentyl adipate
(electrolyte solvent mixts. containing saturated dicarboxylate esters for secondary Li battery)
OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L87 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 1985:69341 HCAPLUS Full-text
DOCUMENT NUMBER: 102:69341
ORIGINAL REFERENCE NO.: 102:10781a
TITLE: Electrochemical dicarboxylation of unsaturated organic compounds
INVENTOR(S): Tkatchenko, Igor Boris Michel; Ballivet-Tkatchenko, Danielle A.; Murr, Nabil El; Tanji, Jamal; Payne, John David
PATENT ASSIGNEE(S): Societe Nationale des Poudres et Explosifs , Fr.
SOURCE: Fr. Demande, 14 pp.
CODEN: FRXXBL
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 2542764	A1	19840921	FR 1983-4355 <--	19830317
FR 2542764	B1	19850621		
PRIORITY APPLN. INFO.:			FR 1983-4355 <--	19830317

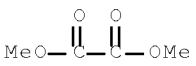
ED Entered STN: 24 Feb 1985
AB A procedure is described for preparing dicarboxylic acids or their derivs. directly from unsatd. organic compds. The latter are electrochem. reduced in a cell in the presence of CO2,a catalyst comprising a transition metal carbonyl complex, and a supporting electrolyte and/or a nonaq. solvent usable in the electrochem. of unsatd. compds. and an electrolyte at a slightly electroneg. potential, lower than the electroredn. potential of CO2 and of the unsatd. compound at 0-50 bars pressure and a temperature of -20 to 60°. Then the reaction is conducted in a known manner of the dicarboxylate anion formed to obtain the acids or their derivs. The obtained compds. are intermediates in very interesting syntheses, e.g. of polymers. An example is given of the preparation of the methyl-3-hexene-1,6-dicarboxylate [41820-27-3] from butadiene. Into an electrochem. cell, under Ar, one places successively Hg, a bar magnet, the complex di-Fe dicyclopentadienyl tetracarbonyl (50 mg, 0.15 +10-3 mol) and then the solvent THF (80 mL) containing the electrolyte Bu4NPF6 (15 g, 0.038 mol). To the solution is added butadiene (6 g, 0.11 mol) dissolved in 20 mL of THF at 0°. The solution is then placed in the anodic compartment. After closing the reactor, CO2 is introduced to obtain and maintain a pressure of 3 bars at room temperature in the reactor during the

electrolysis which consumes CO2. The electrolysis is stopped after .apprx.10 h (3560 coulombs were consumed). After degassing the cell, the reaction mixture is distilled under static vacuum (10-1 torr) at ambient temperature to remove the solvent and excess reactants. The current efficiency is 76%.

IT 553-90-2
(electrochem.preparation of, from ethylene in presence of carbon dioxide)

RN 553-90-2 HCAPLUS

CN Ethanedioic acid, 1,2-dimethyl ester (CA INDEX NAME)



IC C25B003-04; B01J031-20; C07C069-34; C07C069-593; C07C069-612

CC 72-4 (Electrochemistry)
Section cross-reference(s): 23

IT 553-90-2
(electrochem.preparation of, from ethylene in presence of carbon dioxide)

OS.CITING REF COUNT: 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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L16               STR
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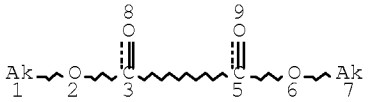


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CONNECT IS E1  RC AT   7
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   8

STEREO ATTRIBUTES: NONE
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                  CARBONATE"/CN
L22             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "METHYL ETHYL
                  OXALATE"/CN
L23             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "METHYL PROPYL
                  OXALATE"/CN
L25             7 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND C7H12O4/M
                  F
L26             6 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L25 AND METHYL?
L27            43 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND HEXYL?
L28            11 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L27 AND METHYL?
L29             0 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L27 AND 1-METHYL?

L30             5 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L27 AND 2-METHYL?

L31            15 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND HEPTYL?
L32            13 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND OCTYL?
L33             8 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND NONYL?
L34             8 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND DECYL?
L35             8 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND UNDECYL?

L36            11 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  L18 AND DODECYL?

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L38             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "PROPYLENE
                  CARBONATE"/CN
L39             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "DIMETHYL
                  CARBONATE"/CN
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                  CARBONATE"/CN
L41             1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  "METHYL ETHYL
                  CARBONATE"/CN
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L44           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  COLIO2/MF
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L46           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  LINIO2/MF
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L49           1 SEA FILE=REGISTRY SPE=ON  ABB=ON  PLU=ON  GRAPHITE/CN
L50      231065 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L49 OR GRAPHITE#
L51        1607 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L21
L52        2339 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L20
L53       42946 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L37 OR L38 OR
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L55        6008 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L18
L56             QUE  SPE=ON  ABB=ON  PLU=ON  ELECTROLYTE#
L57             QUE  SPE=ON  ABB=ON  PLU=ON  NONAQUEOUS? OR NON AQUEOUS?
L58             QUE  SPE=ON  ABB=ON  PLU=ON  L22 OR L23 OR (L26 OR L27 OR
                 L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR
                L36)
L59           3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L56 AND L57 AND
                L58
L60          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L56 AND L57 AND
                L55
L61          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L59 OR L60
L62           6 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L61 AND L52
L63           4 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L62 AND L51
L64          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L59 OR L60 OR
                L61 OR L62 OR L63)
L65             QUE  SPE=ON  ABB=ON  PLU=ON  (L44 OR L45 OR L46 OR L47)
L66           3 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L64 AND L65
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L68             QUE  SPE=ON  ABB=ON  PLU=ON  ANODE# OR NEGATIVE ELECTRODE
                #
L69             QUE  SPE=ON  ABB=ON  PLU=ON  CATHODE# OR POSITIVE ELECTRO
                DE#
L70          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L64 OR L66 OR L67

L71           7 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L70 AND (L68 OR
                L69)
L72          14 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L70 OR L71
L73       15561 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L56 AND L57
L74         164 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L73 AND OXALAT?
L75          32 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L74 AND L51
L76          10 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L75 AND L52
L77          15 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L75 AND L50
L78          12 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L77 AND L68 AND
                L69
L79          13 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L74 AND L52
L80          26 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  (L76 OR L77 OR
                L78 OR L79)
L81          20 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L80 NOT L72
L82       84095 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L4
L83          19 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L82 AND L81
L84           0 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L81 AND L66
L85          17 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L81 AND L53
L86          20 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L81 OR L83 OR L84
                OR L85
L88           8 SEA FILE=HCAPLUS SPE=ON  ABB=ON  PLU=ON  L86 AND (1840-2006
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)/PRY,AY,PY

=> d l88 1-8 ibib ed abs hitstr hitind

L88 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2008:419488 HCAPLUS Full-text
DOCUMENT NUMBER: 148:430036
TITLE: Nonaqueous electrolyte secondary battery
INVENTOR(S): Kitao, Hideki; Chiga, Takanobu
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 10pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

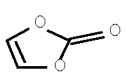
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20080081262	A1	20080403	US 2007-866774 <--	20071003
US 7635542	B2	20091222		
JP 2008091236	A	20080417	JP 2006-271573 <--	20061003

PRIORITY APPLN. INFO.: JP 2006-271573 A 20061003 <--

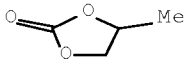
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 04 Apr 2008
AB A non-aqueous electrolyte secondary battery includes a pos. electrode, a neg. electrode, and a non-aqueous electrolyte comprising an electrolyte dissolved in a non-aqueous solvent. The neg. electrode uses a low crystalline carbon coated graphite in which at least part of the surface of graphite is coated with a low crystalline carbon material having lower crystallinity than that of graphite as a neg. electrode active material, and the non-aqueous electrolyte comprises a lithium salt which has oxalate complex as an anion, in addition to a mixed solvent of propylene carbonate and chain carbonate as a non-aqueous solvent.
IT 7782-42-5, Graphite, uses
(carbon-coated; nonaq. electrolyte secondary battery)
RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

c

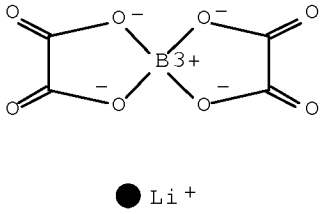
IT 872-36-6, Vinylene carbonate
(nonaq. electrolyte secondary battery)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



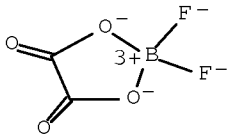
IT 108-32-7, Propylene carbonate 244761-29-3, Lithium bisoxalatoborate 409071-16-5
(nonaq. electrolyte secondary battery)
RN 108-32-7 HCAPLUS
CN 1,3-Dioxolan-2-one, 4-methyl- (CA INDEX NAME)



RN 244761-29-3 HCAPLUS
CN Borate(1-), bis[ethanedioato(2-)-κO1,κO2]-, lithium (1:1), (T-4)- (CA INDEX NAME)



RN 409071-16-5 HCAPLUS
CN Borate(1-), [ethanedioato(2-)-κO1,κO2]difluoro-, lithium (1:1), (T-4)- (CA INDEX NAME)



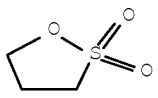
INCL 429332000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST nonaq electrolyte secondary battery
IT Secondary batteries
(nonaq. electrolyte secondary battery)
IT 7782-42-5, Graphite, uses
(carbon-coated; nonaq. electrolyte secondary battery)
IT 7440-44-0, Carbon, uses

(graphite coated with; nonaq. electrolyte secondary battery)
IT 872-36-6, Vinylene carbonate 4427-96-7, Vinyl ethylene carbonate
(nonaq. electrolyte secondary battery)
IT 108-32-7, Propylene carbonate 7439-93-2D, Lithium, salt 7439-93-2D, Lithium, transition metal composite oxide 21324-40-3, Lithium hexafluorophosphate 39300-70-4, Lithium nickel oxide 39457-42-6, Lithium manganese oxide 52627-24-4, Cobalt lithium oxide 244761-29-3, Lithium bisoxalatoborate 409071-16-5 521065-36-1 910558-11-1
(nonaq. electrolyte secondary battery)
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L88 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2008:41823 HCAPLUS Full-text
DOCUMENT NUMBER: 148:124996
TITLE: Nonaqueous electrolyte compositions for secondary lithium ion batteries, and the batteries
INVENTOR(S): Kawashima, Atsumichi
PATENT ASSIGNEE(S): Sony Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 31pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

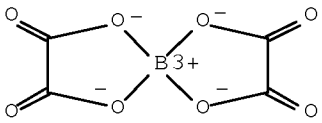
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008004503	A	20080110	JP 2006-175666 <--	20060626
PRIORITY APPLN. INFO.:			JP 2006-175666 <--	20060626

ED Entered STN: 10 Jan 2008
AB Title compns. contain sulfone derivs., and oxalato complex salts containing B, Al, Ga, P, or Sb as central ions/atoms in addition to nonaq. solvents and electrolyte salts. The batteries do not show expansive deformation in high temperature environment, especially, packaged in laminated films.
IT 1120-71-4, Propanesultone 244761-29-3, Lithium bis(oxalato)borate 321201-33-6
(nonaq. electrolytes containing oxalato complex salts and sulfones for secondary lithium ion batteries)
RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



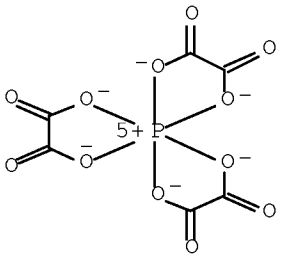
RN 244761-29-3 HCAPLUS
CN Borate(1-), bis[ethanedioato(2-)-κO1,κO2]-, lithium (1:1),

(T-4)- (CA INDEX NAME)



RN 321201-33-6 HCAPLUS

CN Phosphate(1-), tris[ethanedioato(2-)-κO1,κO2]-, lithium (1:1), (OC-6-11)- (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST lithium battery electrolyte oxalato complex salt; oxalato complex phosphate borate lithium battery electrolyte; aluminum gallium oxalato complex lithium battery electrolyte; arsenic antimony oxalato complex lithium battery electrolyte

IT Secondary batteries
(lithium; nonaq. electrolytes containing oxalato complex salts and sulfones for secondary lithium ion batteries)

IT Battery electrolytes
(nonaq. electrolytes containing oxalato complex salts and sulfones for secondary lithium ion batteries)

IT 77-77-0, Divinylsulfone 83-31-8, 1,8-Naphthosultone 1120-71-4, Propanesultone 3289-23-4 3680-02-2, Methyl vinyl sulfone 4430-23-3 21806-61-1 244761-29-3, Lithium bis(oxalato)borate 321201-33-6
(nonaq. electrolytes containing oxalato complex salts and sulfones for secondary lithium ion batteries)

L88 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN

ACCESSION NUMBER: 2007:1089655 HCAPLUS Full-text

DOCUMENT NUMBER: 147:389143

TITLE: Secondary nonaqueous electrolyte battery

INVENTOR(S): Sato, Koichi; Kitao, Hideki; Kita, Yoshinori
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007250440	A	20070927	JP 2006-74762 <--	20060317
PRIORITY APPLN. INFO.:			JP 2006-74762 <--	20060317

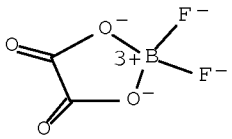
ED Entered STN: 28 Sep 2007

AB The battery has a Li-intercalating cathode, a Li-intercalating anode, and a Li-conductive nonaq. electrolyte solution having an electrolyte salt dissolved in a nonaq. solvent; where the electrolyte solution is added with a Li salt using an oxalate as an anion; and the cathode uses a filamentous carbon as a conductor.

IT 409071-16-5
(cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)

RN 409071-16-5 HCAPLUS

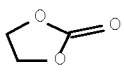
CN Borate(1-), [ethanedioato(2-)-κO1,κO2]difluoro-, lithium (1:1), (T-4)- (CA INDEX NAME)



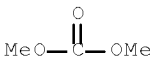
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 7782-42-5, Graphite, uses
(cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)

RN 96-49-1 HCAPLUS

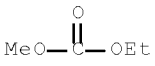
CN 1,3-Dioxolan-2-one (CA INDEX NAME)



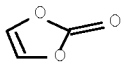
RN 616-38-6 HCAPLUS
CN Carbonic acid, dimethyl ester (CA INDEX NAME)



RN 623-53-0 HCAPLUS
CN Carbonic acid, ethyl methyl ester (CA INDEX NAME)



RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

C

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery cathode carbon fiber conductor; battery electrolyte lithium oxalate complex
IT Battery cathodes
Battery electrolytes
(cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)
IT Carbon fibers, uses
(cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)
IT Secondary batteries
(lithium; cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)
IT 409071-16-5
(cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)

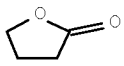
IT 96-49-1, Ethylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 7782-42-5, Graphite, uses 21324-40-3, Lithium hexafluorophosphate 217309-43-8, Cobalt lithium manganese nickel oxide (Co0.3LiMn0.3Ni0.4O2)
(cathodes containing filamentous carbon conductors and electrolytes containing lithium oxalate complex salts for secondary lithium batteries)

L88 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:865763 HCAPLUS Full-text
DOCUMENT NUMBER: 147:238796
TITLE: Multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries
INVENTOR(S): Charest, Patrick; Guerfi, Abdelbast; Petitclerc, Michel; Dontigny, Martin; Zaghib, Karim
PATENT ASSIGNEE(S): Hydro-Quebec, Can.
SOURCE: Can. Pat. Appl., 39pp.
CODEN: CPXXEB
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

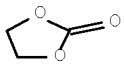
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CA 2535064	A1	20070801	CA 2006-2535064 <--	20060201
CA 2640173	A1	20070809	CA 2007-2640173 <--	20070131
WO 2007087714	A1	20070809	WO 2007-CA141 <--	20070131
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
EP 1984175	A1	20081029	EP 2007-701741 <--	20070131
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR				
JP 2009525568	T	20090709	JP 2008-552655 <--	20070131
CN 101378897	A	20090304	CN 2007-80004027 <--	20080731
IN 2008DN07155	A	20081003	IN 2008-DN7155 <--	20080821
KR 2008091499	A	20081013	KR 2008-721238 <--	20080829
US 20090301866	A1	20091210	US 2008-162933 <--	20081205

PRIORITY APPLN. INFO.: CA 2006-2535064 A 20060201
<--
WO 2007-CA141 W 20070131

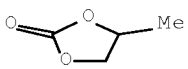
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 08 Aug 2007
AB Multi-layer materials suitable for use as electrodes in electrochem. generators (especially secondary batteries) consist of ≥2 layers of solids superimposed on each other, each containing electrochem. active material, and having an easy penetration into the other. The cathode configurations include LiFePO4, LiCoO2, FePO4, Li3PO4, LiMn2O4, LiNiO2, and LiNi0.33Co0.33Mn0.33O2; the anode configurations include graphite or carbon, Li4Ti5O12, Sn, Al, carbon-containing Al, Ag, or Si. The layers are fabricated using a water-soluble binder, such as PVDF or PTFE, a thickener (Na CM-cellulose), and a solvent (e.g., N-methylpyrrolidone or cyclopentanone). The electrodes are useful for batteries with nonaq. electrolytes containing lithium salts.
IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 244761-29-3, Lithium bis(oxalato)borate
(battery electrolytes; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (CA INDEX NAME)



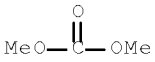
RN 96-49-1 HCAPLUS
CN 1,3-Dioxolan-2-one (CA INDEX NAME)



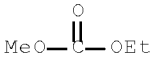
RN 108-32-7 HCAPLUS
CN 1,3-Dioxolan-2-one, 4-methyl- (CA INDEX NAME)



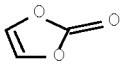
RN 616-38-6 HCAPLUS
CN Carbonic acid, dimethyl ester (CA INDEX NAME)



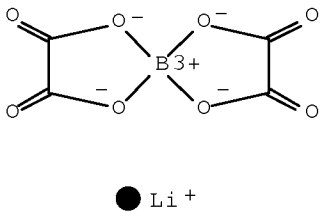
RN 623-53-0 HCAPLUS
CN Carbonic acid, ethyl methyl ester (CA INDEX NAME)



RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



RN 244761-29-3 HCAPLUS
CN Borate(1-), bis[ethanedioato(2-)-κO1,κO2]-, lithium (1:1), (T-4)- (CA INDEX NAME)



IT 7782-42-5, Graphite, uses 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2)
(electrode bed material; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

C

RN 12057-17-9 HCAPLUS
CN Lithium manganese oxide (LiMn2O4) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	4	17778-80-2
Mn	2	7439-96-5
Li	1	7439-93-2

RN 12190-79-3 HCAPLUS
CN Cobalt lithium oxide (CoLiO2) (CA INDEX NAME)

Component	Ratio	Component Registry Number
O	2	17778-80-2
Co	1	7440-48-4
Li	1	7439-93-2

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST multilayer battery electrode electrolyte; battery cathode anode multilayer lithium salt graphite
IT Polyethers, uses
(binder; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT Battery anodes
Battery cathodes
Battery electrodes
(multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT Fluoropolymers, uses
(multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT 9004-32-4, Cellogen
(Cellogen, thickener; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT 96-48-0, γ-Butyrolactone 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 2832-49-7, Tetraethylsulfamide 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium trifluoromethanesulfonate 90076-65-6, LiTFSI 132843-44-8, Lithium bis(perfluoroethanesulfonyl)imide 171611-11-3 244761-29-3, Lithium bis(oxalato)borate
(battery electrolytes; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT 9002-84-0, PTFE 9011-14-7, Polymethyl methacrylate 24937-79-9, Polyvinylidene difluoride 25014-41-9, Polyacrylonitrile
(binder; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT 15365-14-7, Iron lithium phosphate (FeLiPO4)
(carbon-coated, electrode bed material; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)
IT 7429-90-5, Aluminum, uses 7440-21-3, Silicon, uses 7440-22-4, Silver, uses 7440-31-5, Tin, uses 7440-44-0, Carbon, uses

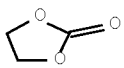
7782-42-5, Graphite, uses 10045-86-0, Iron phosphate (FePO4) 10377-52-3, Lithium phosphate (Li3PO4) 12031-95-7, Lithium titanium oxide (Li4Ti5O12) 12057-17-9, Lithium manganese oxide (LiMn2O4) 12190-79-3, Cobalt lithium oxide (CoLiO2) 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2)
(electrode bed material; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)

IT 120-92-3, Cyclopentanone 872-50-4, N-Methylpyrrolidone, uses
(solvent; multilayer electrode materials for use as cathodes and anodes in secondary lithium batteries)

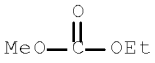
L88 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:505050 HCAPLUS Full-text
DOCUMENT NUMBER: 146:444961
TITLE: Pentafluorophenyloxy compounds, their manufacture, nonaqueous electrolytic solutions containing them, and secondary lithium batteries
INVENTOR(S): Abe, Hiroshi; Kuwata, Takaaki; Takase, Manabu
PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 19pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007112737	A	20070510	JP 2005-304850 <--	20051019
PRIORITY APPLN. INFO.:			JP 2005-304850 <--	20051019

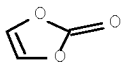
OTHER SOURCE(S): MARPAT 146:444961
ED Entered STN: 10 May 2007
AB C6F2OR1OR2 [I; R1 = COCO, SO, SO2; R2 = C1-12 (halo)alkyl, C3-12 (halo)cycloalkyl, C2-12 (halo)alkenyl, etc.; when R1 = COCO, R2 is aryl-free group] are manufactured by condensation of C6F5OH with R2OR1X (R1, R2 = same as above; X = halo) in the presence of bases. The electrolytic solns. contain I or (C6F5O)nY (Y = alkali metal, alkaline earth metal; n = 1, 2), preferably further contain cyclic carbonates and linear carbonates, and more preferably contain vinylene carbonate, 1,3-propanesultone, and/or alkynes. The batteries show high discharge capacity retention after repeated cycles.
IT 96-49-1, Ethylene carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate
(electrolytic solution; manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
RN 96-49-1 HCAPLUS
CN 1,3-Dioxolan-2-one (CA INDEX NAME)



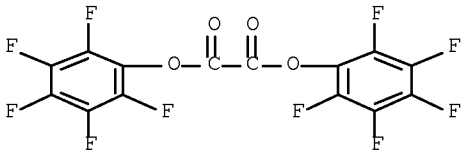
RN 623-53-0 HCAPLUS
CN Carbonic acid, ethyl methyl ester (CA INDEX NAME)



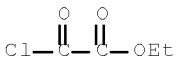
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



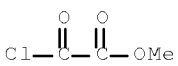
IT 16536-48-4, Bis(pentafluorophenyl) oxalate
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
RN 16536-48-4 HCAPLUS
CN Ethanedioic acid, 1,2-bis(2,3,4,5,6-pentafluorophenyl) ester (CA INDEX NAME)



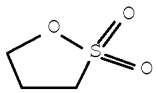
IT 4755-77-5 5781-53-3
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
RN 4755-77-5 HCAPLUS
CN Acetic acid, 2-chloro-2-oxo-, ethyl ester (CA INDEX NAME)



RN 5781-53-3 HCAPLUS
CN Acetic acid, 2-chloro-2-oxo-, methyl ester (CA INDEX NAME)



IT 1120-71-4, 1,3-Propanesultone
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
RN 1120-71-4 HCAPLUS
CN 1,2-Oxathiolane, 2,2-dioxide (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 25
ST pentafluorophenyloxy nonaq electrolytic soln lithium battery; lithium battery electrolyte pentafluorophenyloxy compd manuf
IT Carbonates, uses
(cyclic or linear; manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT Secondary batteries
(lithium; manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT Battery electrolytes
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT 96-49-1, Ethylene carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 61764-71-4, Methyl propargyl carbonate
(electrolytic solution; manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT 96157-57-2P 934750-96-6P 934750-99-9P 934751-01-6P 934751-04-9P
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT 16536-48-4, Bis(pentafluorophenyl) oxalate 108534-96-9, Lithium pentafluorophenoxide
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT 79-37-8, Oxalyl chloride 107-19-7, Propargyl alcohol 771-61-9, Pentafluorophenol 4755-77-5 5781-53-3 7719-09-7, Thionyl chloride 32315-10-9, Triphosgene
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)
IT 1120-71-4, 1,3-Propanesultone
(manufacture of pentafluorophenyloxy compds. as additives for nonaq. electrolytic solns. for secondary lithium batteries)

L88 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2007:133820 HCAPLUS Full-text
DOCUMENT NUMBER: 146:209740
TITLE: Additive for enhancing the performance of electrochemical cells
INVENTOR(S): Jow, T. Richard; Zhang, Shengshui; Xu, Kang
PATENT ASSIGNEE(S): The United States of America as Represented by the

Secretary of the Army, USA
SOURCE: U.S., 12pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

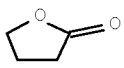
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 7172834	B1	20070206	US 2003-625686 <--	20030724
US 7524579	B1	20090428	US 2006-642655 <--	20061221

PRIORITY APPLN. INFO.: US 2002-398712P P 20020729 <--
US 2003-625686 A3 20030724 <--

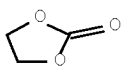
ED Entered STN: 07 Feb 2007

AB A lithium battery includes an electrolyte comprised of a non-aqueous solvent, and a salt mixture The salt mixture includes an alkali metal electrolyte salt and an additive salt having an anion of a mixed anhydride of oxalic acid and boric acid. Specific additive salts include lithium bis(oxalato) borate and lithium oxalyldifluoroborate. Particular electrolyte salts comprise LiPF6 and LiBF4. The additive salt is present in an amount of 0.1-60 mol percent of the total of the additive salt and electrolyte salt content of the electrolyte. Also disclosed is a method for enhancing the performance characteristics of a lithium battery through the use of the electrolyte composition Also disclosed is the compound lithium oxalyldifluoroborate.

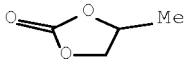
IT 96-48-0, γ-Butyrolactone
(additive for enhancing performance of electrochem. cells)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (CA INDEX NAME)



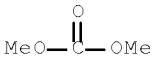
IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 872-36-6, Vinylene carbonate 7782-42-5, Graphite, uses 244761-29-3, Lithium bis(oxalato)borate 409071-16-5
(additive for enhancing performance of electrochem. cells)
RN 96-49-1 HCAPLUS
CN 1,3-Dioxolan-2-one (CA INDEX NAME)



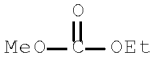
RN 108-32-7 HCAPLUS
CN 1,3-Dioxolan-2-one, 4-methyl- (CA INDEX NAME)



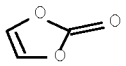
RN 616-38-6 HCAPLUS
CN Carbonic acid, dimethyl ester (CA INDEX NAME)



RN 623-53-0 HCAPLUS
CN Carbonic acid, ethyl methyl ester (CA INDEX NAME)



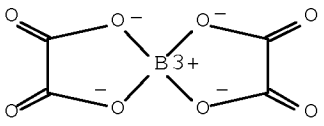
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



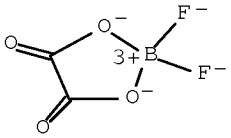
RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

C

RN 244761-29-3 HCAPLUS
CN Borate(1-), bis[ethanedioato(2-)-κO1,κO2]-, lithium (1:1), (T-4)- (CA INDEX NAME)



RN 409071-16-5 HCAPLUS
CN Borate(1-), [ethanedioato(2-)-κO1,κO2]difluoro-, lithium (1:1), (T-4)- (CA INDEX NAME)



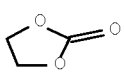
INCL 429188000; 429199000; 429329000; 429332000; 252519200
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT Battery electrolytes
(additive for enhancing performance of electrochem. cells)
IT 79-20-9, Methyl acetate 96-48-0, γ-Butyrolactone 105-37-3, Ethyl propionate 105-54-4, Ethyl butyrate 105-66-8, Propyl butyrate 108-21-4, IsoPropyl acetate 109-60-4, Propyl acetate 123-86-4, Butyl acetate 141-78-6, Ethyl acetate, uses 554-12-1, Methyl propionate 623-42-7, Methyl butyrate 637-78-5, Isopropyl propionate 638-11-9, IsoPropyl butyrate
(additive for enhancing performance of electrochem. cells)
IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate 463-79-6D, Carbonic acid, ester 616-38-6, Dimethyl carbonate 623-53-0, Ethyl methyl carbonate 623-96-1, Dipropyl carbonate 872-36-6, Vinylene carbonate 2923-17-3 2923-20-8 4437-85-8, Butylene carbonate 7782-42-5, Graphite , uses 7791-03-9, Lithium perchlorate 14283-07-9, Lithium tetrafluoroborate 14485-20-2, Lithium tetraphenylborate 21324-40-3, Lithium hexafluorophosphate 33454-82-9, Lithium triflate 35363-40-7, Ethyl propyl carbonate 56525-42-9, Methyl propyl carbonate 90076-65-6 115028-88-1 132404-42-3 244761-29-3, Lithium bis(oxalato)borate 409071-16-5
(additive for enhancing performance of electrochem. cells)
OS.CITING REF COUNT: 5 THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L88 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2005:963640 HCAPLUS Full-text
DOCUMENT NUMBER: 143:251038
TITLE: Lithium secondary battery
INVENTOR(S): Fujihara, Toyoki; Takeda, Kazuhisa; Kitao, Hideki; Ikemachi, Takaaki; Nohma, Toshiyuki; Nakanishi, Naoya
PATENT ASSIGNEE(S): Sanyo Electric Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

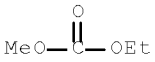
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050191553	A1	20050901	US 2005-66225 <--	20050225
US 7416813	B2	20080826		
JP 2005243504	A	20050908	JP 2004-53672 <--	20040227
JP 2006196250	A	20060727	JP 2005-4851 <--	20050112
CN 1661846	A	20050831	CN 2005-10052847 <--	20050225
CN 100449850	C	20090107		
KR 2006042201	A	20060512	KR 2005-15654 <--	20050225

PRIORITY APPLN. INFO.: JP 2004-53672 A 20040227 <--
JP 2005-4851 A 20050112 <--

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
ED Entered STN: 02 Sep 2005
AB A lithium secondary battery is provided with a pos. electrode, a neg. electrode, and a non-aqueous electrolyte prepared by dissolving a solute in a non-aqueous solvent wherein a pos . electrode active material of the pos. electrode is composed of lithium-manganese composite oxide having a spinel structure and lithium-transition metal composite oxide having a layer structure containing at least nickel and lithium salt having oxalato complex as anion is admixed to the non-aqueous electrolyte.
IT 96-49-1, Ethylene carbonate 623-53-0, Ethyl methyl carbonate 7782-42-5, Graphite, uses 244761-29-3, Lithium bisoxalatoborate
(lithium secondary battery)
RN 96-49-1 HCAPLUS
CN 1,3-Dioxolan-2-one (CA INDEX NAME)



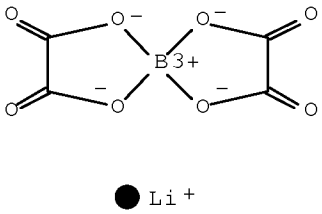
RN 623-53-0 HCAPLUS
CN Carbonic acid, ethyl methyl ester (CA INDEX NAME)



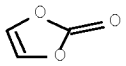
RN 7782-42-5 HCAPLUS
CN Graphite (CA INDEX NAME)

C

RN 244761-29-3 HCAPLUS
CN Borate(1-), bis[ethanedioato(2-)-κO1,κO2]-, lithium (1:1), (T-4)- (CA INDEX NAME)



IT 872-36-6, Vinylene carbonate
(lithium secondary battery)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



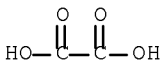
IC ICM H01M004-52
ICS H01M010-40
INCL 429231100; 429223000; 429326000; 429330000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT 96-49-1, Ethylene carbonate 623-53-0, Ethyl methyl carbonate 7782-42-5, Graphite, uses 21324-40-3, Lithium hexafluorophosphate 155472-68-7, Lithium manganese oxide (Li1.1Mn1.9O4) 217309-43-8, Cobalt lithium manganese nickel oxide (Co0.3LiMn0.3Ni0.4O2) 244761-29-3, Lithium bisoxalatoborate 346417-97-8, Cobalt lithium manganese nickel oxide (Co0.33LiMn0.33Ni0.33O2)
(lithium secondary battery)
IT 872-36-6, Vinylene carbonate 3741-38-6, Ethylene sulfite 4427-96-7, Vinyl ethylene carbonate 114435-02-8, Fluoroethylene carbonate
(lithium secondary battery)

OS.CITING REF COUNT: 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

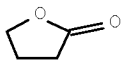
L88 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2010 ACS on STN
ACCESSION NUMBER: 2001:617337 HCAPLUS Full-text
DOCUMENT NUMBER: 135:168881
TITLE: Secondary nonaqueous electrolyte batteries
INVENTOR(S): Oki, Shunsuke; Misao, Takashi; Koizumi, Hiroyuki
PATENT ASSIGNEE(S): Asahi Chemical Industry Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001229964	A	20010824	JP 2000-37169 <--	20000215
PRIORITY APPLN. INFO.:			JP 2000-37169 <--	20000215

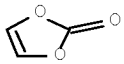
ED Entered STN: 24 Aug 2001
AB The batteries have a cathode, an anode, a separator between the electrodes, and a nonaq. electrolyte solution in a battery case; where the electrolyte solution contains ≥0.1% vinylene carbonate and the battery contains Li oxalate, at an amount satisfying (0.5Liox/Lica) = 0.01-0.1 (Liox and Li ca are the mol of Li in the oxalate and in the battery cathode, resp.) before initial charge.
IT 553-91-3, Lithium oxalate
(anodes containing lithium oxalate for secondary lithium batteries using electrolyte solns. containing vinylene carbonate)
RN 553-91-3 HCAPLUS
CN Ethanedioic acid, lithium salt (1:2) (CA INDEX NAME)



IT 96-48-0, γ-Butyrolactone
(electrolyte solns. containing vinylene carbonate for secondary lithium batteries using anodes containing lithium oxalate)
RN 96-48-0 HCAPLUS
CN 2(3H)-Furanone, dihydro- (CA INDEX NAME)



IT 872-36-6, vinylene carbonate
(electrolyte solns. containing vinylene carbonate for secondary lithium batteries using anodes containing lithium oxalate)
RN 872-36-6 HCAPLUS
CN 1,3-Dioxol-2-one (CA INDEX NAME)



IC ICM H01M010-40
ICS H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium battery electrolyte solvent vinylene carbonate; lithium oxalate secondary lithium battery additive
IT Battery anodes
(anodes containing lithium oxalate for secondary lithium batteries using electrolyte solns. containing vinylene carbonate)
IT Battery electrolytes
(electrolyte solns. containing vinylene carbonate for secondary lithium batteries using anodes containing lithium oxalate)
IT Carbon fibers, uses
(graphite; anodes containing lithium oxalate for secondary lithium batteries using electrolyte solns. containing vinylene carbonate)
IT Secondary batteries
(lithium; secondary lithium batteries using electrolyte solns. containing vinylene carbonate and anodes containing lithium oxalate)
IT 553-91-3, Lithium oxalate
(anodes containing lithium oxalate for secondary lithium batteries using electrolyte solns. containing vinylene carbonate)
IT 96-48-0, γ-Butyrolactone 14283-07-9, Lithium fluoroborate 21324-40-3, Lithium hexafluorophosphate
(electrolyte solns. containing vinylene carbonate for secondary lithium batteries using anodes containing lithium oxalate)
IT 872-36-6, vinylene carbonate
(electrolyte solns. containing vinylene carbonate for secondary lithium batteries using anodes containing lithium oxalate)

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=> d his nofile

     (FILE 'HOME' ENTERED AT 08:26:22 ON 18 MAR 2010)

     FILE 'HCAPLUS' ENTERED AT 08:26:33 ON 18 MAR 2010
L1             1 SEA SPE=ON  ABB=ON  PLU=ON  US20060246356/PN
                 SEL RN

     FILE 'REGISTRY' ENTERED AT 08:26:46 ON 18 MAR 2010
L2            24 SEA SPE=ON  ABB=ON  PLU=ON  (105-58-8/BI OR 108-32-7/BI OR
                 108-59-8/BI OR 1120-71-4/BI OR 12057-17-9/BI OR 12190-79-3/
                 BI OR 14283-07-9/BI OR 2050-60-4/BI OR 20602-87-3/BI OR
                 20760-45-6/BI OR 21324-40-3/BI OR 5132-19-4/BI OR 553-90-2/
                 BI OR 615-52-1/BI OR 616-38-6/BI OR 61764-71-4/BI OR
                 623-53-0/BI OR 7782-42-5/BI OR 841302-60-1/BI OR 841302-61-
                 2/BI OR 841302-62-3/BI OR 872-36-6/BI OR 96-48-0/BI OR
                 96-49-1/BI)
L3             4 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND LI/ELS
L4         12592 SEA SPE=ON  ABB=ON  PLU=ON  ?OXALAT?/CNS
L5             6 SEA SPE=ON  ABB=ON  PLU=ON  L4 AND L2
L6               STR
L7            50 SEA SSS SAM L6
L8               STR L6
L9             5 SEA SSS SAM L8
L10              STR L8
L11            2 SEA SSS SAM L10
L12           18 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND ESTER?
L13           15 SEA SPE=ON  ABB=ON  PLU=ON  L12 NOT 1-100/NR
L14              STR L10
L15            1 SEA SSS SAM L14
L16              STR L14
L17            1 SEA SSS SAM L16
L18          593 SEA SSS FUL L16
L19            9 SEA SPE=ON  ABB=ON  PLU=ON  L2 AND L18
                 SAV L18 WEI902/A
                 E 1,3-PROPANE SULTONE/CN
L20            1 SEA SPE=ON  ABB=ON  PLU=ON  "1,3-PROPANE SULTONE"/CN
                 E VINYLENE CARBONATE/CN
L21            1 SEA SPE=ON  ABB=ON  PLU=ON  "VINYLENE CARBONATE"/CN
                 E METHYL ETHYL OXALATE/CN
L22            1 SEA SPE=ON  ABB=ON  PLU=ON  "METHYL ETHYL OXALATE"/CN
                 E METHYL PROPYL OXALATE/CN
L23            1 SEA SPE=ON  ABB=ON  PLU=ON  "METHYL PROPYL OXALATE"/CN
                 E METHYL BUTYL OXALATE/CN
                 E METHYLBUTYL OXALATE/CN
L24            0 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND C7 H12O4/MF
L25            7 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND C7H12O4/MF
L26            6 SEA SPE=ON  ABB=ON  PLU=ON  L25 AND METHYL?
L27           43 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND HEXYL?
L28           11 SEA SPE=ON  ABB=ON  PLU=ON  L27 AND METHYL?
L29            0 SEA SPE=ON  ABB=ON  PLU=ON  L27 AND 1-METHYL?
L30            5 SEA SPE=ON  ABB=ON  PLU=ON  L27 AND 2-METHYL?
L31           15 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND HEPTYL?
L32           13 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND OCTYL?
L33            8 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND NONYL?
L34            8 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND DECYL?
L35            8 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND UNDECYL?
L36           11 SEA SPE=ON  ABB=ON  PLU=ON  L18 AND DODECYL?
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                E METHYL ETHYL CARBONATE/CN
L37           1 SEA SPE=ON  ABB=ON  PLU=ON  "METHYL ETHYL CARBONATE"/CN
                E PROPYLENE CARBONATE/CN
L38           1 SEA SPE=ON  ABB=ON  PLU=ON  "PROPYLENE CARBONATE"/CN
                E DIMETHYL CARBONATE/CN
L39           1 SEA SPE=ON  ABB=ON  PLU=ON  "DIMETHYL CARBONATE"/CN
                E ETHYLENE CARBONATE/CN
L40           1 SEA SPE=ON  ABB=ON  PLU=ON  "ETHYLENE CARBONATE"/CN
                E METHYL ETHYL CARBONATE/CN
L41           1 SEA SPE=ON  ABB=ON  PLU=ON  "METHYL ETHYL CARBONATE"/CN
                E ETHYLENE CARBONATE/CN
L42           1 SEA SPE=ON  ABB=ON  PLU=ON  "ETHYLENE CARBONATE"/CN
                E GAMMA-BUTYROLACTONE/CN
                E BUTYROLACTONE/CN
L43           1 SEA SPE=ON  ABB=ON  PLU=ON  BUTYROLACTONE/CN
                E COLIO2/MF
L44           1 SEA SPE=ON  ABB=ON  PLU=ON  COLIO2/MF
L45           1 SEA SPE=ON  ABB=ON  PLU=ON  LIMN2O4/MF
                E LINIO2/MF
L46           1 SEA SPE=ON  ABB=ON  PLU=ON  LINIO2/MF
L47         462 SEA SPE=ON  ABB=ON  PLU=ON  (LI(L)CO(L)NI(L)O)/ELS(L)4/ELC.
                SUB
L48             QUE SPE=ON  ABB=ON  PLU=ON  (L37 OR L38 OR L39 OR L40 OR
                L41 OR L42 OR L43 OR L44 OR L45 OR L46)
                E GRAPHITE/CN
L49           1 SEA SPE=ON  ABB=ON  PLU=ON  GRAPHITE/CN

     FILE 'HCAPLUS' ENTERED AT 10:00:09 ON 18 MAR 2010
L50      231065 SEA SPE=ON  ABB=ON  PLU=ON  L49 OR GRAPHITE#
L51        1607 SEA SPE=ON  ABB=ON  PLU=ON  L21
L52        2339 SEA SPE=ON  ABB=ON  PLU=ON  L20
L53       42946 SEA SPE=ON  ABB=ON  PLU=ON  (L37 OR L38 OR L39 OR L40 OR
                L41 OR L42 OR L43 OR L44 OR L45 OR L46)
L54        1790 SEA SPE=ON  ABB=ON  PLU=ON  L47
L55        6008 SEA SPE=ON  ABB=ON  PLU=ON  L18
L56             QUE SPE=ON  ABB=ON  PLU=ON  ELECTROLYTE#
L57             QUE SPE=ON  ABB=ON  PLU=ON  NONAQUEOUS? OR NON AQUEOUS?
L58             QUE SPE=ON  ABB=ON  PLU=ON  L22 OR L23 OR (L26 OR L27 OR
                L28 OR L29 OR L30 OR L31 OR L32 OR L33 OR L34 OR L35 OR
                L36)
L59           3 SEA SPE=ON  ABB=ON  PLU=ON  L56 AND L57 AND L58
L60          14 SEA SPE=ON  ABB=ON  PLU=ON  L56 AND L57 AND L55
L61          14 SEA SPE=ON  ABB=ON  PLU=ON  L59 OR L60
L62           6 SEA SPE=ON  ABB=ON  PLU=ON  L61 AND L52
L63           4 SEA SPE=ON  ABB=ON  PLU=ON  L62 AND L51
L64          14 SEA SPE=ON  ABB=ON  PLU=ON  (L59 OR L60 OR L61 OR L62 OR
                L63)
L65             QUE SPE=ON  ABB=ON  PLU=ON  (L44 OR L45 OR L46 OR L47)
L66           3 SEA SPE=ON  ABB=ON  PLU=ON  L64 AND L65
L67           4 SEA SPE=ON  ABB=ON  PLU=ON  L64 AND L50
L68             QUE SPE=ON  ABB=ON  PLU=ON  ANODE# OR NEGATIVE ELECTRODE#
L69             QUE SPE=ON  ABB=ON  PLU=ON  CATHODE# OR POSITIVE ELECTRODE#

L70          14 SEA SPE=ON  ABB=ON  PLU=ON  L64 OR L66 OR L67
L71           7 SEA SPE=ON  ABB=ON  PLU=ON  L70 AND (L68 OR L69)
L72          14 SEA SPE=ON  ABB=ON  PLU=ON  L70 OR L71
L73       15561 SEA SPE=ON  ABB=ON  PLU=ON  L56 AND L57
L74         164 SEA SPE=ON  ABB=ON  PLU=ON  L73 AND OXALAT?
L75          32 SEA SPE=ON  ABB=ON  PLU=ON  L74 AND L51
L76          10 SEA SPE=ON  ABB=ON  PLU=ON  L75 AND L52
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L77	15	SEA	SPE=ON	ABB=ON	PLU=ON	L75 AND L50
L78	12	SEA	SPE=ON	ABB=ON	PLU=ON	L77 AND L68 AND L69
L79	13	SEA	SPE=ON	ABB=ON	PLU=ON	L74 AND L52
L80	26	SEA	SPE=ON	ABB=ON	PLU=ON	(L76 OR L77 OR L78 OR L79)
L81	20	SEA	SPE=ON	ABB=ON	PLU=ON	L80 NOT L72
L82	84095	SEA	SPE=ON	ABB=ON	PLU=ON	L4
L83	19	SEA	SPE=ON	ABB=ON	PLU=ON	L82 AND L81
L84	0	SEA	SPE=ON	ABB=ON	PLU=ON	L81 AND L66
L85	17	SEA	SPE=ON	ABB=ON	PLU=ON	L81 AND L53
L86	20	SEA	SPE=ON	ABB=ON	PLU=ON	L81 OR L83 OR L84 OR L85
L87	14	SEA	SPE=ON	ABB=ON	PLU=ON	L72 AND (1840-2006)/PRY,AY,PY
L88	8	SEA	SPE=ON	ABB=ON	PLU=ON	L86 AND (1840-2006)/PRY,AY,PY